THE SILVER INSTITUTE LETTER

WORLDWIDE INFORMATION ON SILVER

PUBLISHED SINCE 1971 OCTOBER-NOVEMBER 1990

GROWING JAPANESE DEMAND FOR SILVER

by Michael J. Brown

Japanese demand for silver has increased 20% since 1986 when Japan used 2,785 tons of silver. Japan used 3,333 tons in 1989, and is expected to increase its demand to 3,480 by the end of 1990.

In 1989 Japan obtained 201 tons of its silver from domestic mines, 1,213 from foreign mine operations, 740 tons from scrap and recycling and 853 tons from overseas.

Its largest silver trading partners are Mexico and Peru. Japan imported 471 tons of silver from Mexico in 1989 and 204 tons from Peru.

As shown in the table at right, in 1990 over half of Japan's silver will be used by the photographic industry. Photographic demand increased from 1,463 tons in 1986 to 1,704 in 1989. It is expected to grow to 1,800 tons in 1990.

Demand	1986	1989	1990e
Photography	1463	1704	1800
Silver Nitrates	235	278	300
Electrical Contacts	213	295	320
Brazing Alloys	116	141	150
Electroplating	100	118	120
Jewelry/Ornaments	54	110	120
Dental	38	52	50
Silver Coin	116	150	160
Other	450	485	460
TOTAL	2785	3333	3480

The driving forces behind these increases are the increased interest in photography throughout the world and Japan's introduction of the inexpensive disposable camera.

Use of silver in coinage has also enjoyed steady growth. Growth should continue as a result of the new Currency Act which gave the Ministry of Finance the authority to issue silver coins as authorized by the Cabinet. In 1988, they authorized the issuance of a silver coin to commemmorate the International Garden Exposition in Osaka and two more commemorative coins are being planned.

MAGNIFICENT MEXICAN SILVER ART AT METROPOLITAN MUSEUM

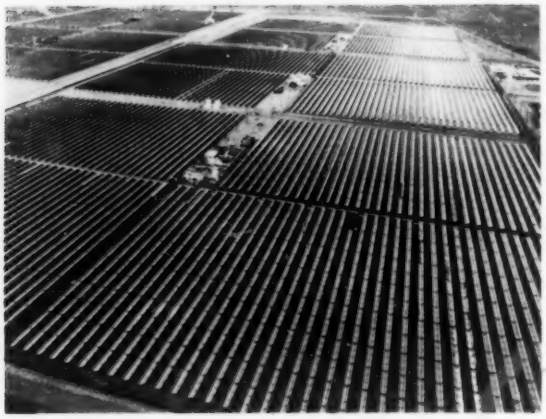
The President of Mexico, Carlos Salinas de Gotari, attended the opening of a monumental exhibition, "Mexico: Splendors of 30 Centuries" at New York City's Metropolitan Museum of Art. Within this exhibit is a magnificent display of Mexican silver objects created from 1521 to the 19th century. According to Philippe de Montebello, the director of the Metropolitan Museum, the show will run until January 13, 1991. Afterwards, it will be displayed in San Antonio and Los Angeles.

SILVER CAN HELP REDUCE THE WORLD'S DEPENDENCE ON OIL

The turmoil in the Middle East has created renewed interest in silver as an alternate source of energy and as a means of conserving the energy that is available. Although liquid silver isn't available at your gasoline station, it can actually take the place of gasoline in cars powered by silver-zinc batteries or by solar cells.

Arrays of silvered mirrors capture the enormous and endless power of the sun and convert it into a clean form of electrical energy that, for decades, has been in regular use to power remote navigational beacons, farms, mining camps, irrigation systems and third-world towns.

For example, some 1.8 million square meters of silver-coated mirrors at eight power plants generate 275 megawatt hours of power — enough to satisfy the electrical energy needs of a Southern California community of 385,000 people.



Each square meter of silvered mirrors saves about one barrel of oil.

Silver also works to conserve energy in our homes and offices. This is accomplished by using silver-coated insulating glass in the windows and doors. It reduces winter heat losses by 50% and, in the summer, even though the glass is quite clear, it reduces incoming solar hear by about 12%. Thus, it lowers heating costs in the winter and cooling costs in the summer, thereby conserving oil-generated energy.

Unlikely as it may seem to the layman, silver is also utilized as a lubricant in GM's Allison diesel engines for locomotives, ships and power-generating plants.

And flexible silvered reflectors, made by 3M Corp., increased output in flourescent lamps by over 50% while internal silver coatings in incandescent light bulbs made by Duro-Test Corp., increased their output by 60%.

All of the above energy-related uses of silver are results of the use of proven, available silver technology. New silver technology may move silver into the heart of the future world of superconductors with battery-powered airplanes, trains that float above tracks at half the speed of jet liners, and unlimited energy without pollution.

Future issues of the SILVER INSTITUTE LETTER will bring you a close-up of each energy-related use of silver — uses that could bring about dramatic changes in the nature of demand for silver as well as major increases in global demand for silver.

HOLIDAY HOSTESSES CHOOSE STERLING SILVER FOR FESTIVITIES

By Diana Shiel

At-home entertaining is burgeoning all over America as hostesses are lavishing taste, time and dollars on dining accoutrements with drama and style. According to *Food & Wine* magazine, frequent hosting of parties is definitely on the upsurge, with 30% of U.S. households entertaining more than they were five years ago.

Traditionally, the holidays usually mean lots of festive celebrations, from small intimate dinners and family gatherings to elaborate gala affairs,

Whether the party is large or small, fancy or simple, more hostesses are re-discovering the charming old customs of their grandmothers, who set their tables with artistic and loving care.

What would the grandest celebration be without your finest linen, china, crystal and sterling flatware and table accessories? They make the occasion even more special. A napkin threaded through a shimmering sterling silver napkin ring becomes a work of art; a cornucopia of fresh fruit, pine cones and colorful Christmas ornaments in a silver bowl becomes an elegant centerpiece; a combination of new and heirloom sterling flatware and serving pieces expresses individual flair; and a sterling gift at each placesetting thanks guests for the pleasure of their company.

Bold, opulent sterling silver jewelry, by William Holman, shimmers on holiday hostess' dazzling feminine looks.

Although grandmother may have taken the family sterling out of the cupboard only for special holidays the Silver Information Center suggests making every meal one that is a reflection of your good taste. "Using sterling flatware every day actually improves it," says Katherine Wolf, director of marketing for Silver Trust International. "As sterling is used, it takes on a beautiful lustrous finish, or 'patina'."

LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	MAY 1990	APRIL 1990	Jan-May 1990	Jan-May 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary (ores & concentrates)	4,493,924	4,144,255	4.0	4.3	4.2
From Coins	31,548	73,550	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	1,882,656	2,819,333	2.4	3.3	2.7
From New Scrap (in-plant clippings, waste)*	2,162,569	1,688,317	1.8	2.6	2.5
TOTAL PRODUCTION	8,570,697	8,725,455	8.2	10.2	9.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,381,849	3,885,921	3.5	4.9	4.3
Shipped Out as 999 Silver	5,009,878	4,905,281	4.6	5.2	5.0
TOTAL DISPOSITION	8,391,727	8,791,202	8.0	10.1	9.4
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	178,970	-65,747	0.9	0.5	-0.2
THESE REFINERS' STOCKS AT END OF PERIOD	1,217,908	1,038,938	1.2	1.0	0.3

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	MAY 1990	APRIL 1990	Jan-May 1990	Jan-May 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary (ores & concentrates)	13,276,853	13,344,342	14.0	13.4	13.8
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	4,148,008	3,627,164	3.6	4.2	4.1
From New Scrap (in-plant clippings, waste)*	885,097	888,630	0.9	1.7	1.5
TOTAL PRODUCTION	18,309,958	17,860,136	18.6	19.3	19.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,850,321	2,195,748	2.1	2.4	2.3
Shipped Out as 999 Silver	18,555,965	16,956,178	16.7	16.3	16.8
TOTAL DISPOSITION	20,406,286	19,151,926	18.8	18.8	19.2
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	-2,096,328	-1,291,790	-1.0	2.4	3.5
THESE REFINERS' STOCKS AT END OF PERIOD	10,119,012	12,215,340	10.1	10.0	11.1

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

THE SILVER INSTITUTE
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LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	JUNE 1990	MAY 1990	Jan-Jun 1990	Jan-Jun 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary (ores & concentrates)	4,078,974	4,493,924	4.0	4.3	4.2
From Coins	25,760	31,548	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,599,641	1,882,656	2.4	3.1	2.7
From New Scrap (in-plant clippings, waste)*	2,114,947	2,162,569	1.9	2.6	2.5
TOTAL PRODUCTION	8,819,322	8,570,697	8.3	10.0	9.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,822,341	3,381,849	3.5	4.8	4.3
Shipped Out as 999 Silver	5,268,965	5,009,878	4.7	5.2	5.0
TOTAL DISPOSITION	9,091,306	8,391,727	8.2	10.0	9.4
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	-271,984	178,970	0.6	0.0	-0.2
THESE REFINERS' STOCKS AT END OF PERIOD	945,924	1,217,908	0.9	0.5	0.3

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	JUNE 1990	MAY 1990	Jan-Jun 1990	Jan-Jun 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary (ores & concentrates)	13,355,066	13,276,853	13.9	13.6	13.8
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,611,334	4,148,008	3.6	4.2	4.1
From New Scrap (in-plant clippings, waste)*	786,078	885,097	0.9	1.7	1.5
TOTAL PRODUCTION	17,752,478	18,309,958	18.4	19.5	19.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	2,300,453	1,850,321	2.1	2.4	2.3
Shipped Out as 999 Silver	16,903,263	18,555,965	16.7	16.8	16.8
TOTAL DISPOSITION	19,203,716	20,406,286	18.8	19.2	19.2
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	-1,451,238	-2,096,328	-2.4	1.8	3.5
THESE REFINERS' STOCKS AT END OF PERIOD	8,667,774	10,119,012	8.7	9.4	11.1

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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Gifts for the Hostess

One time-honored tradition that still endures year after year is bringing an appropriate house-warming gift for the hostess. Little things mean a lot, whether sent or hand-carried, a gift is a fitting way to say thank you.

This Christmas there is an abundance of delightfully luxurious silver gift choices in all price ranges: items for the home, those related to a hobby or career, and fun personal indulgences.

Tiffany's sterling perpetual calendar ($65).

When in a dilemma as to what to bring, here are some sterling gift ideas for the hostess: measuring spoons with your favorite family recipe, a shimmering silver Christmas tree ornament, a diamond-cut silver pen, a silver golf shoe key chain for the weekend golf pro, or a perpetual calendar and letter opener for our executive hostess.

The beauty of sterling silver gifts is that they can be personalized with a monogram or special date to be remembered long after the festivities end. Whether you're purchasing sterling flatware, table accessories or gifts, always look for the mark, "Sterling" or ".925". This is your assurance of quality, and it is stamped on the back of every piece of sterling silver.

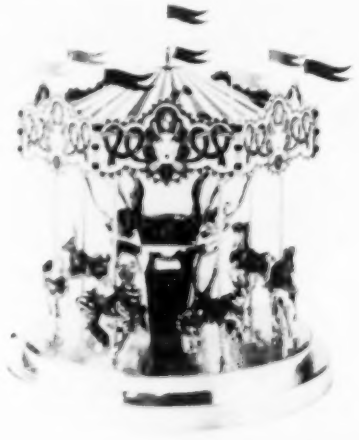
For further information about sterling silver, kindly write to the Silver Information Center, Brochure, 295 Madison Avenue, New York, NY 10017.

STERLING SILVER GIFTS $15 TO $35,000 — ALL SAY MERRY CHIRSTMAS!

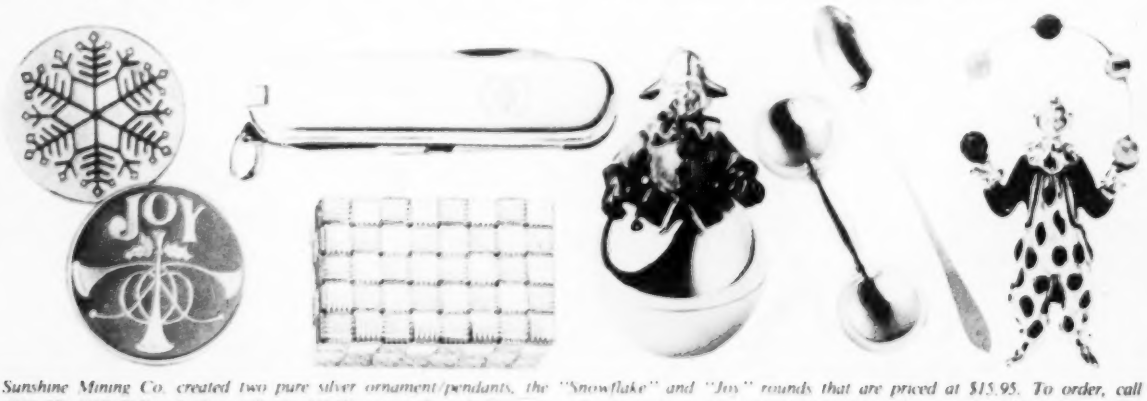
An abundance of sterling silver gifts for the coming holidays can be found in department stores, jewelry stores, national museums, specialty shops as well as in the many gift catalogs that arrive at this time of year.

Some of these gifts are to wear, others are designed to give an air of classic elegance to our dining room table, others decorate our living areas, and still others serve more utilitarian purposes in our kitchens and bathrooms.

They all are made from a very beautiful and precious metal — silver — and many of them will become family heirlooms. All of them will be appreciated because each one is a lasting expression of your affection.



Gene Moore's sterling silver 14 inches high musical carousel, with seven moving figures mounted on a rotating platform. It took Tiffany & Co. craftsmen one year to make. Priced at $35,000.



Sunshine Mining Co. created two pure silver ornament/pendants, the "Snowflake" and "Joy" rounds that are priced at $15.95. To order, call (800) 274-5837. Tiffany's "best seller for 1990" — a sterling silver version of the "Swiss Army Knife" with 18K gold emblem priced at $90. Other popular Tiffany sterling silver gifts include a: basket weave pill box ($50), Gene Moore hand crafted "Clown" toy ($1,100), Barbell rattle ($115) and "Faneuil" baby feeding spoon ($50) for the baby's first Christmas, and Gene Moore's "Juggling Clown" ($650) from Tiffany's extremely popular collection of enamelled sterling silver circus figures.

CANADA'S FIRST BI-METALLIC COINS HONOR FIFTY YEARS OF FLIGHT

The Royal Canadian Mint unveiled its first bi-metallic coins on September 15 at the National Aviation Museum in Ottawa when it showed the public the first two of a series of ten coins honoring famous planes and pilots of Canada's fifty year history of aviation. Both of the coins *(shown below)*, have a face value of $20 and are composed of .925 fine silver with a gold-plated inset cameo.

One coin depicts two Canadian-built training planes — the Harvard in flight and the Anson on the ground. The gold-plated cameo portrait in this coin is that of Air Marshall Robert Leckie, first commander of the Commonwealth Flight Training Program. The second coin depicts a four-engine bomber of World War II vintage, the Lancaster 683 Avro in flight with three more Lancasters following, and the cameo portrays John E. Fauquier, commander of 617 Squadron, the famous "Dambuster" unit which bombed German dams in the Ruhr Valley.

Mintages are limited to 50,000 per coin. They are priced at $46 each in U.S. funds, plus $4 shipping and handling per order. Telephone orders, please call (800) 267-1871, extension 599.

COINAGE REDUCES U.S. SILVER STOCKPILE BY 45 MILLION OUNCES

The sale of bullion and commemorative coins by the United States Mint has consumed 45 million ounces of silver from the National Defense Strategic Stockpile since 1986. This is a 33% reduction of the 136 million ounces originally in the stockpile. Silver coin sales have averaged over 8 million ounces per year. "The silver coin programs are fulfilling the General Accounting Office recommendation to reduce the stockpile in a manner which would minimize or eliminate any short-term market price disruption," according to John Lutley, executive director of The Silver Institute.

The American Eagle Silver Bullion Coin, the most popular silver bullion coin in the world, has consumed 33.7 million ounces of stockpile silver. The Statue of Liberty, Constitution, Olympic, Congress and Eisenhower commemorative silver coins have consumed another 10.6 million ounces since 1986.

The U.S. Congress recently authorized silver coins to commemorate the centennial of Mount Rushmore and is considering legislation to commemorate Christopher Columbus, the USO and the end of World War II. Additionally, Silver Proof Coin sets have been approved by the U.S. Senate and it is hoped that the House will concur. Silver Proof Coin sets could use up to 2 million ounces of silver annually and promote additional public interest in silver coins.

FOR FUTURE REFERENCE: SILVER PRICES

1990	High	Low	Average
Sep.	4.86	4.70	4.78
Aug.	5.28	4.74	4.97
July	4.98	4.77	4.85
June	5.09	4.74	4.90
May	5.28	4.94	5.08
Apr.	5.18	4.86	5.05
Mar.	5.16	4.89	5.06
Feb.	5.35	5.05	5.27
Jan.	5.27	5.12	5.24

Annual Silver Prices 1980-1989

Year	High	Low	Avg.
1989	6.20	5.02	5.47
1988	8.06	6.01	6.53
1987	11.25	5.35	6.99
1986	6.32	4.85	5.49
1985	6.89	5.48	6.14
1984	10.17	6.25	8.15
1983	14.74	8.38	11.46
1982	11.30	4.81	7.93
1981	16.53	7.97	10.53
1980	50.35	10.20	20.66
1979	35.00	5.93	11.20

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WORLD SILVER SURVEY PUBLISHED BY THE SILVER INSTITUTE

World silver fabrication demand has increased nearly 28% over the past five years, pushing global consumption to an estimated 505 million ounces in 1990, according to the first edition of The Silver Institute's annual *World Silver Survey* released December 4 in New York City.

Throughout the 1990s fabrication demand is expected to increase 3.3% annually — outpacing silver supply which is expected to increase 2% each year over the next decade.

Art Brown, President of The Silver Institute, briefs analysts during the release of the World Silver Survey in New York on December 4.

John Valentine of *The Wall Street Journal* reported, "As a result, the surpluses have almost been erased, leading to the prospect that use may outrun supplies over the next decade."

"Overall, the facts outlined in the *World Silver Survey* indicate the market is tightening," Art Brown, chairman of Hecla Mining Company and president of The Silver Institute said during a briefing on the report. "The 1980s were challenging years for precious metals. We look forward to the 1990s, and hope this annual publication will assist all those involved in the silver market."

"The primary goal of The Silver Institute is to publish accurate statistics on the global silver market and make them available to all market participants," said John Lutley, the Institute's executive director. "We feel the *World Silver Survey* helps accomplish our goal by providing the reader with reliable information on supply trends, fabrication demand, investment demand, analysis of market inventories and a 40-year history of the market." The *World Silver Survey* will be updated annually.

Copies of the report may be purchased for a US $10 postage and handling fee in North America and US $15 to other countries from The Silver Institute at its **NEW ADDRESS: 1112 Sixteenth Street, N.W., Suite 240, Washington, D.C. 20036.**

JAPANESE DEMAND FOR SILVER CONSUMER PRODUCTS UP 107%!

by Michael J. Brown

Handcrafted Silver Buddha.

Japanese silver industry sources report that Japan's demand for silver jewelry and flatware has increased 107% since 1986 — from 54 tons to 112 tons — and final figures for 1990 are expected to climb to 140 tons. It is estimated that 40% of this demand is in the jewelry sector and the balance in the silver "ornament" category.

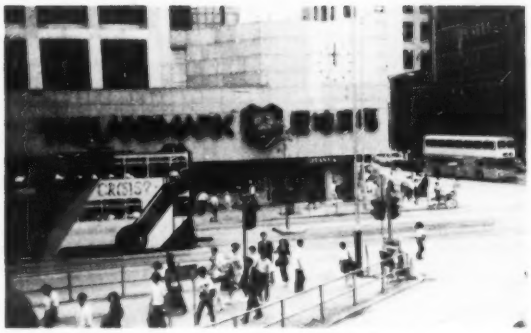
The leading firm in the Japanese silver jewelry market is the Vendome Yamada Corporation. It markets 80% of the silver jewelry seen in Japanese department stores and jewelry shops. It also markets a line of European designer jewelry to fashion conscious school girls and teenagers.

Richard Wolfe of McCann Erickson in Tokyo called silver jewelry "a product waiting to be branded," one that could enjoy considerable success given the high level of disposable income and the Japanese desire for luxury fashion goods.

In Japan, silver ornaments are handcrafted objects of superb quality. The most popular designs feature silver yachts, banzi trees, birds and religious icons.

Mr. Ishihara of Tanaka Kikinzoku Kogyo holds a silver saki cup prepared by Mr. Mori's company, Obuchi Ginki.

Japanese craftsman finishing a silver vase for the Royal Household.

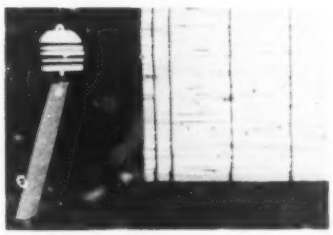


Tiffany & Co. boutique is one of Hong Kong's leading outlets for silver jewelry.

The Japanese government is a major buyer of silver ornaments for use as gifts to veterans, visiting diplomats and for use by the Royal Household. But silver ornaments are by no means limited to the Royal Household. They are sold by most department stores and are frequently used as family and business gifts.

One of the favorite ornaments is the sterling silver wind bell or "Furin" *(below)* which is manufactured by the Yamazaki, Ginza division of Tanaka Kikinzoku Kogyo – a member of The Silver Institute. "The 'Furin' is one of the traditional things that give poetic charm to summer in Japan and dates back to the old days when neither the air conditioner, nor even the electric fan, had been introduced to Japan. At that time, 'Furins' were hung under the eaves and tinkled in the summer breezes as the people sat on their verandas, fanning themselves," according to M. Tonoki of Tanaka Kikinzoku.

M. Tonoki added, "And now, our beautifully finished silver 'Furins' tinkle coolly and help people endure dull summers."



Because of its global prestige, the U.S. retailer, Tiffany & Co., is making substantial progress in introducing the Japanese consumer to silver. Tiffany now operates 24 boutiques in Japan and has also recently opened locations in Hong Kong and Taiwan. According to Richard Chaney, Chairman of Tiffany, "The fastest growing of Tiffany's distribution channels is International Retail." Its sales increased 152% between 1988 and 1989 and constituted 25% of total sales.

SILVER HELPS AIRPORTS DETECT DEADLY WIND SHEER

by Samuel F. Etris, Senior Technical Consultant, The Silver Institute

Windstorms create violent downdrafts known as microbursts. At airports, when microbursts hit the ground, they may produce a strong gust of air (wind sheer) which, under certain circumstances, can reduce or eliminate the lifting power of an aircraft's wings, thus causing it to crash.

The detection of these invisible changes in wind has been a major challenge to researchers because between 1975 and 1985, this wind sheer phenomenon caused 149 aircraft accidents and 450 fatalities according to the National Transportation Safety Board.

Now a system capable of automatically detecting slight changes in radar signals from wind sheer gusts has been developed. The heart of this system is a new super electron tube created by Varian Associates of San Carlos, California. The new Varian tube's reliable performance depends on a silver brazing alloy, which hermetically seals the tube's envelope to its base, and maintains the vacuum environment essential for converting electric current to microwave power.

New super electron tube.

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	NOVEMBER 1990	OCTOBER 1990	Jan-Nov 1990	Jan-Nov 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	4,537,199	3,557,287	4.0	4.2	4.2
From Coins	23,466	21,424	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,625,528	2,360,434	2.3	2.8	2.7
From New Scrap (in-plant clippings, waste)*	2,545,764	2,079,682	1.9	2.4	2.5
TOTAL PRODUCTION	9,731,957	8,018,827	8.3	9.4	9.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	4,512,680	3,824,979	3.5	4.3	4.3
Shipped Out as 999 Silver	4,883,589	4,394,916	4.7	5.0	5.0
TOTAL DISPOSITION	9,396,269	8,219,895	8.2	9.3	9.4
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	335,688	(201,068)	0.8	0.7	-0.2
THESE REFINERS' STOCKS AT END OF PERIOD	1,105,388	769,700	1.1	1.2	0.3

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	NOVEMBER 1990	OCTOBER 1990	Jan-Nov 1990	Jan-Nov 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	14,410,863	13,085,202	13.5	13.9	13.8
From Coins	2,461	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,662,183	3,789,177	3.6	4.1	4.1
From New Scrap (in-plant clippings, waste)*	949,177	1,091,956	0.9	1.6	1.5
TOTAL PRODUCTION	19,024,684	17,966,335	18.0	19.6	19.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,890,986	1,816,875	2.0	2.4	2.3
Shipped Out as 999 Silver	16,797,099	15,839,820	16.2	16.7	16.8
TOTAL DISPOSITION	18,688,085	17,656,695	18.2	19.1	19.2
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	336,599	309,640	-1.5	5.5	3.5
THESE REFINERS' STOCKS AT END OF PERIOD	9,571,234	9,234,635	9.6	13.1	11.1

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

THE SILVER INSTITUTE
A WORLDWIDE ASSOCIATION OF MINERS, REFINERS, FABRICATORS AND MANUFACTURERS
INCORPORATED 1971
1112 16th St., N.W., Suite 240, Washington, DC 20036 Tel.(202)835-0185

LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	DECEMBER 1990	NOVEMBER 1990	Jan-Dec 1990	Jan-Dec 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	4,013,983	4,537,199	4.0	4.2	4.2
From Coins	17	23,466	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,210,513	2,625,528	2.3	2.7	2.7
From New Scrap (in-plant clippings, waste)*	1,881,463	2,545,764	1.9	2.5	2.5
TOTAL PRODUCTION	8,105,976	9,731,957	8.3	9.3	9.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,353,461	4,512,680	3.5	4.3	4.3
Shipped Out as 999 Silver	5,084,199	4,883,589	4.8	5.0	5.0
TOTAL DISPOSITION	8,437,660	9,396,269	8.2	9.4	9.4
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	(331,684)	335,688	0.5	-0.2	-0.2
THESE REFINERS' STOCKS AT END OF PERIOD	773,704	1,105,388	0.8	0.3	0.3

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	DECEMBER 1990	NOVEMBER 1990	Jan-Dec 1990	Jan-Dec 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	13,711,923	14,410,863	13.5	13.8	13.8
From Coins	592	2,461	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,524,241	3,662,183	3.6	4.1	4.1
From New Scrap (in-plant clippings, waste)*	1,157,802	949,177	0.9	1.5	1.5
TOTAL PRODUCTION	18,394,558	19,024,684	18.1	19.5	19.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,824,910	1,890,986	2.0	2.3	2.3
Shipped Out as 999 Silver	15,533,603	16,797,099	16.1	16.8	16.8
TOTAL DISPOSITION	17,358,513	18,688,085	18.1	19.2	19.2
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	1,036,045	336,599	-0.5	3.5	3.5
THESE REFINERS' STOCKS AT END OF PERIOD	10,607,279	9,571,234	10.6	11.1	11.1

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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330,000 VIEW EXHIBIT OF 3,000 YEARS OF MEXICAN ART

by Katherine Wolf, Silver Trust International

Mexican Silver Processional Cross (1700).
The Metropolitan Museum of Art; Lent by the Museo Franz Mayer, Mexico City. Photo: Gerardo Suter/Lourdes Almeida.

So far this season, Mexico has been discovered, seen and enjoyed by 330,000 people at New York City's Metropolitan Museum of Art. The museum is hosting "Mexico: Splendors of Thirty Centuries" — a collection of over 400 magnificent examples of Mexico's visual arts. The idea for the show came from Emilio Azcarraga, chairman of the board of Mexico's largest TV network, "Televisa." With the enthusiastic agreement of the Metropolitan, he helped raise money for the show and enlisted the cooperation of the Mexican government.

No other country in this hemisphere has produced so much glorious art across so many centuries. The triumph of the Mexicans is that they created Mexican art, not simply a pale reflection of the art of Europe. The artists of Mexico clearly had little interest in a naturalistic rendering of the visible world; they lived in that world and must have felt little need to reproduce it. Instead, they abstracted the world, stylized it and simplified it. They also made visible the unseen worlds of myths and legends.

Not only does it span 3,000 years, it also represents more than its share of artistic techniques: silver, architecture, painting, sculptures, ceramics, furniture and textiles — some that include silver thread. In silver, the exhibit includes crosses, chalices, religious jewelry and even an entire silver altar. Beautiful silver jewelry produced by the Centro Platero de Zacatecas silversmith's school and handsome silver objects by the famous Mexican designer, Victor Carranza, are available for sale in the exhibition's adjacent gift shop. A museum spokesperson said that to date, 330,000 people have viewed the exhibition, and estimates that attendance will be over one million by the time the show moves to San Antonio and Los Angeles on January 13.

Major Metropolitan Museum exhibitions have historically had a great influence on tourism, style and fashion. For two years after the King Tutankhamen show closed, tourism to Egypt climbed five to eight percent. It is quite probable that the motifs, designs and themes of the Mexican exhibition will appear in interior design and fashion collections in the near future. Viva Mexico!

CONGRESS AUTHORIZES U.S. MINT TO SELL SILVER PROOF SETS

by Chris Rose

In the final hours of the 101st Congress, lawmakers approved the one coinage program that coin collectors have requested for years — silver proof versions of official legal tender coins. The bill authorizes the U.S. Mint to produce **90% silver coin sets which would include the Roosevelt dime, Washington quarter and Kennedy half-dollar.** Currently, the sets are only offered in a copper-nickel alloy.

"With this legislation, we can earn a little revenue for the U.S. Treasury, help coin collectors, and support our silver industry," said Nevada Senator Richard Bryan, sponsor of the legislation.

In a recent survey, conducted by *Coin World,* the nation's leading coin newspaper, more than 90% of all respondents said they would purchase silver proof sets if offered by the U.S. Mint. According to current estimates, the Mint could sell between two and three million silver proof sets annually — each containing more than half an ounce of silver. The Mint now sells about three million regular proof sets.

"Coin collectors across the country have expressed interest in being able to obtain original 90% silver content dimes, quarters and half-dollars," said California Representative Nancy Pelosi, who helped push the measure through the House. "And their purchase of these coins contributes revenue to our federal Treasury."

Under the measure, silver for the coin sets would be drawn from the National Strategic Stockpile which currently holds just over 90 million ounces of silver. Coinage programs have reduced the stockpile by 45 million ounces over the past five years without adversely affecting the international silver market.

"This is truly a win-win measure," said Idaho Senator James McClure, co-sponsor of the legislation. "It's another way the silver stockpile can be reduced without disrupting the nation's silver industry. Just as the sales of other silver coins have given the federal Treasury a greater return than anyone expected, I'm confident this new silver proof set will be an even better deal for the taxpayer."

INCREASING PHOTOGRAPHIC DEMAND FOR SILVER

Current upward trends in the photographic industry discredit reports that silver prices are declining because of a drop in photographic demand, industry analysts say.

These reports "are totally in error," said Jeff Christian, managing director of CPM Group — a U.S. research organization gathering data from every major photographic company worldwide. "They don't match what we're consistently seeing throughout the photo sector. In 1990, we're projecting a 4% increase in photographic silver use — up from 186 million ounces in 1989." This growth projection factors in the possibility of a recession, he added.

Eastman Kodak projects a similar 5% growth rate through the mid 1990s in color negatives alone — translating into some 10–14 billion additional exposures by 1995 — according to John L. Sheldon, Kodak's manager of corporate sourcing, during a recent precious metals conference.

He gave the following reasons why Kodak believes silver halide photography will continue to grow for the foreseeable future: Kodak will continue to develop new products to improve the quality, price/convenience factors required to expand the market for traditional products; Hybrid film/electronic systems will be developed which will further expand the market for photographic film and paper; Opportunities exist for geographic expansion, particularly in the undeveloped and developing nations; and, Products designed for specific age groups will also increase demand in these market segments.

"The bottom line is that we believe silver halide technology will continue to generate very substantial earning opportunities well into the next century," added Mr. Sheldon.

FOR FUTURE REFERENCE: SILVER PRICES

1990	High	Low	Average
Nov.	4.27	4.09	4.16
Oct.	4.69	4.11	4.34
Sep.	4.86	4.70	4.78
Aug.	5.28	4.74	4.97
July	4.98	4.77	4.85
June	5.09	4.74	4.90
May	5.28	4.94	5.08
Apr.	5.18	4.86	5.05
Mar.	5.16	4.89	5.06
Feb.	5.35	5.05	5.27
Jan.	5.27	5.12	5.24

Please note!

The Silver Institute

1991 Annual Meeting

July 28 -30

The Coeur d'Alene Resort, Idaho

The Winners!

Coeur d'Alene Resort

was voted the BEST U.S. Mainland Resort by *Condé Nast Traveler* Magazine

ANNUAL SILVER PRICES 1979-1989

Year	High	Low	Avg.
1989	6.20	5.02	5.47
1988	8.06	6.01	6.53
1987	11.25	5.35	6.99
1986	6.32	4.85	5.49
1985	6.89	5.48	6.14
1984	10.17	6.25	8.15
1983	14.74	8.38	11.46
1982	11.30	4.81	7.93
1981	16.53	7.97	10.53
1980	50.35	10.20	20.66
1979	35.00	5.93	11.20

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Editor, David U. Groves

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THE SILVER INSTITUTE LETTER

WORLDWIDE INFORMATION ON SILVER

PUBLISHED SINCE 1971 **FEBRUARY - MARCH 1991**

NEW INTEREST IN SILVER WATER PURIFICATION

Katadyn's TRK unit purifies water at home, trailer, camp.

The U.S. Environmental Protection Agency recently announced that it has removed silver from the U.S. Primary Drinking Water Standard List of Contaminants. Notice was published in the January issue of the *Federal Register*. **The EPA decision could result in an important increase in the use of silver as an alternative means of purifying water throughout the United States**, according to water purification industry leaders.

"This action will increase the use of silver for treating drinking water. It will allow the industry to make its water purification units more efficient, and perhaps even more importantly, it will wipe away a lot of doubts about the use of silver in drinking water," said Walter Polens, Vice President of Ionics, Inc., Bridgeville, PA. Ionics uses 1.7 million ounces of silver each year and is the largest supplier of silver-impregnated activated carbon in the United States.

This EPA equivalent of a "seal of approval" should also help boost sales of already popular silver water purifying systems such as the silver-copper electrodes, manufactured by **Tarn Pure, Inc.** and **Caribbean Clear, Inc.** This system is used in the purification of water in swimming pools in the United States and also permits a significant reduction in the amount of chlorine used.

Samuel Etris, Senior Technical Consultant of The Silver Institute, estimates that "Silver-copper electrodes require about two ounces of silver per unit per season. With sales of residential pools amounting to over 120,000 last year, and with over 5-million residential and hotel pools in the United States, **this market's potential could reach 10-million ounces per season**."

Herb Koeble, U.S. representative of **Katadyn Products Inc.** of Wallisellen, Switzerland, which manufactures silver-based "Micropur" tablets, powder and liquids, said that now Katadyn can apply to the EPA Registration Division for approval of efficacy of its "Micropur" system. Approval would allow the introduction of Katadyn's clean-tasting water purification system into the U.S.

This silver-based, chlorine-free water disinfectant is odorless and tasteless and has been used effectively in Europe for many years. European labs have proven it to be a "harmless, simple and effective means of killing all vegetative germs present in the treated water, especially those causing diseases such as typhus, paratyphus, dysentery, colibacillosis, cholera and also the viruses causing influenza and mumps."

This action by the EPA, which has been recommended by The Silver Institute for many years, should also encourage more research on how to get maximum benefits from presently available silver water purification systems.

It should also stimulate the development of new and improved silver water purification systems such as the system, of **Mexicana de Microdyn** of Mexico City. Some 30 years ago, Mexicana de Microdyn developed a silver coating which, when painted on the inside walls of reservoirs, provides a year-long bactericidal protection of drinking water in warm climates where chlorine evaporates, leaving water unprotected.

According to Mexicana de Microdyn, it has not only provided Mexicans with pure water, but has also contributed to a marked reduction in the incidence of disease and use of chlorine for over 30 years. It would prove extremely useful in warmer regions of the U.S. as well as in small communities that are remote from municipal water purification plants.

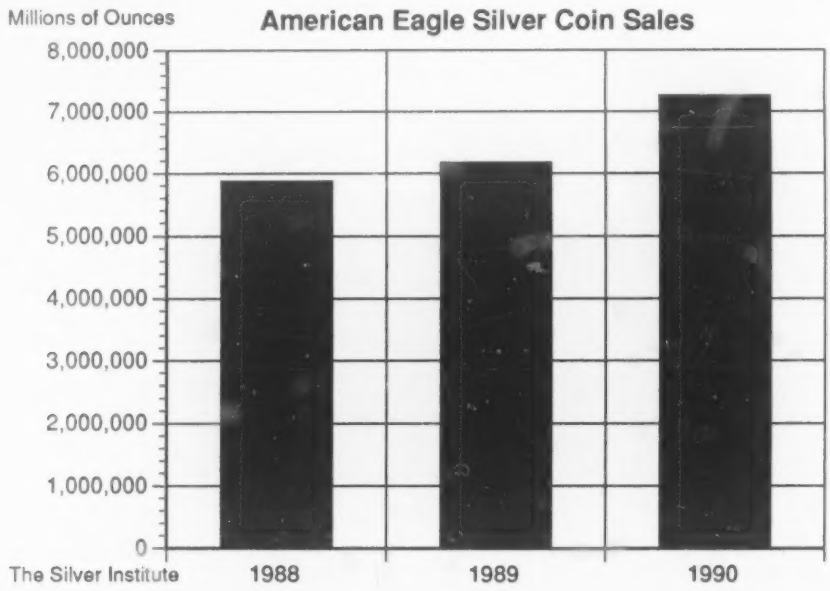
INVESTORS RETURN TO SILVER

by Michael Brown

During December and January, investment demand for silver surged according to the United States Mint, the Royal Canadian Mint and the Sunshine Bullion Company.

For the first time since 1987, Silver Eagle sales exceeded one million ounces for two consecutive months according to the U.S. Mint. In December, the Mint reported 1.4 million ounces were sold to investors and 1.8 million during January. Silver prices have hovered around $4 an ounce during the period, making silver an attractive speculation for investors who are accustomed to silver at $5 or $6 an ounce. Furthermore, war concerns have sparked renewed interest in precious metal investments.

The U.S. Mint reported that sales of Silver American Eagle coins in 1990 increased 18% over 1989 levels. Annual sales were up from 6.1 million to 7.2 million ounces. In addition, the 700,000 silver proof Eagle collector coins authorized for 1990 completely sold out.



Michael Francis of The Royal Canadian Mint reports "Sales of the Canadian Silver Maple Leaf have nearly doubled in the last two weeks." According to Mr. Francis, demand for the Silver Maple Leaf began to pick up just before Christmas and has continued at a pace higher than expected for 1991.

Mike Huss of Sunshine Bullion Company, a private mint, reports "Silver sales are booming. Investors are consuming silver like there is no tomorrow. According to Huss, the first evidence of the increase appeared just before Christmas, and since that time they have had difficulty keeping up with demand from their wholesale and retail investment clients.

Improved supply and demand fundamentals are attractive to investors. According to the recently released *World Silver Survey,* the gap between silver fabrication demand and silver supply has narrowed for four years in a row. Total new supply is believed to have fallen in 1990 to 521 million ounces and fabrication demand is estimated to have increased to 505 million ounces. And over the coming decade, supply is likely to rise around 2% per annum, while fabrication demand is expected to increase at a 3.3% annual pace.

Mint sales to its distribution network provide an efficient way of monitoring investor attitudes towards silver. For example, sales of silver Eagles boomed following the stock market crash in October of 1987 as investors left the equity market and turned to precious metals. The recent surge in silver coin sales clearly demonstrates that investors are returning to silver.

1990 HAD A MERRY SILVER CHRISTMAS!

1990 featured a Recession and lower sales for many retailers during the Christmas season. However, in the case of silver . . .

- Silver is a very precious metal.
- Silver jewelry has captured the fashion look.
- Some of the great designers displayed jewelry and giftware in sterling silver.
- Many jewelers now look at the silversmithing that goes into the high quality tableware and giftware as an art form -- and exhibit it as such.
- And, after all, beautiful silver items *are* more affordable than gifts of other precious metals.

These are some of the factors that came together during Christmas of 1990 to make it a record "Silver Christmas" for retail stores throughout the nation.

Cazenovia Abroad's "Road to Bethlehem." One hundred and thirty ounces of pure silver were used to produce Deborah Copenhaver's poignant rendition of a very beloved story.

One of the biggest importers of top quality classic and artistic silver consumer products from Europe and Latin America, **Cazenovia Abroad** in Cazenovia, New York, had — according to its founder and president, Mrs. Pat Trush — its best year in the 23-year history of this wholesale firm. She added that most of Cazenovia's retail outlets had banner sales during the Christmas season, a situation that "kept our entire staff working on shipments right up until the Friday before Christmas!" Mrs. Trush noted, "And with the exception of an unusually strong surge of orders for our sterling silver Christmas ornaments in November, the demand was uniformly strong for picture frames, pill boxes, candelabrums, baby cups and for all of our silver products alike."

Pure silver coin rounds and bars with Christmas designs and greetings also enjoyed tremendous popularity during the Holiday Season of 1990. **At Sunshine Bullion Company**, Marvin Otten said that Sunshine's Christmas Catalog sales of "Snowflake Rounds" and other pure silver products were well above average and that Christmas bullion sales soared to 100% above company expectations. **Silver Townes** president, Leon Hendrickson, said, "This Christmas our sales of silver gift products were just fantastic. We had 10 different pure silver Christmas bars and our sales of these bars were at least 40% above sales for Christmas 1989!"

In New York City, **Tiffany & Co.** Chairman William R. Chaney announced, "Tiffany will enjoy a record level of sales and earnings in 1990." Regarding Tiffany's holiday sales of silver, Edward Warynek, Vice President, Product Development/Silver said, "Christmas sales of Tiffany's silver products were above those of last year." He added that the most popular silver gift product was Tiffany's silver version of the Swiss Army Knife *(pictured below)*.

In Winter Park, Florida the owner of a beautiful, upscale Tiffany trade account store, **Park Promenade Jewelers** was delighted with Christmas sales of silver jewelry and giftware. The owner, Caroline van den Berg added, "But silver has been a big seller for us for the past 18 Christmas seasons. And for our store, it is always a great year for silver jewelry because it is always among our best sellers." A beautiful full color catalog exhibits Park Promenade's array of sterling silver gifts. Although sales of all silver products were excellent, Ms. van den Berg added that demand was so strong for Cazenovia's sterling silver Angel tree ornament that they sold out two weeks before Christmas. Park Promenade also ran out of Tiffany's diamond-cut sterling silver ball point pens and Tiffany's Paloma Picasso smaller XX earrings. Other popular sterling silver items included Hand & Hammer pins and ornaments, Tiffany's baby rattles, cups, and bracelets and Cazenovia's Tussey Mussies.

SILVER PROTECTS YOUR EYES ON SKI SLOPES OR SUNNY BEACHES

It is quite possible that whether you plan to vacation at one of the ski resorts or one of the sunny, warm tropical islands, your eyes are already protected by silver because over the past 20 years, Corning Inc. of Corning, NY has used over 1.5 million ounces of silver in the production of 87 million pairs of photochromic sunglasses. These are glasses containing silver that darken in bright sunlight and lighten in the dark.

Sunglasses, unless they block at least 75% of the UV rays, offer no real protection to the wearer. Corning's new generation of photochromic glasses is Photogrey Extra, which change from clear eyeglasses to sunglasses (its light transmission changes from 85% to 25%) in less than 60 seconds, and blocks 97% of the UV rays.

What is the problem with UV rays? Medical data shows that repeated exposure to ultraviolet (UV) light can lead to damage of the eye's lens and cause cataracts. UV rays also have been shown to damage the cornea (the transparent coating which covers the iris and the pupil) and the retina, which is the organ that transforms light into images in the brain.

The only other manufacturers of photochromic glass are Pilkington Flat Glass Ltd., Merseyside, UK and Shott Glaswerke, Mainz, Germany.

"SEATED LINCOLN" CAPTURED IN SILVER

Over 1,000 troy ounces of .999 fine silver were used by the Maiden Foundry, 16600 S.E. 362nd, Sandy, Oregon 97055, in the casting of this 22-inch high "Seated Lincoln" by Gutzon Borglum.

FOR FUTURE REFERENCE: SILVER PRICES

1991	High	Low	Average
Jan.	4.29	3.76	4.03

1990	High	Low	Avg.
Dec.	4.19	3.94	4.08
Nov.	4.27	4.09	4.16
Oct.	4.69	4.11	4.34
Sep.	4.86	4.70	4.78
Aug.	5.28	4.74	4.97
July	4.98	4.77	4.85
June	5.09	4.74	4.90
May	5.28	4.94	5.08
Apr.	5.18	4.86	5.05
Mar.	5.16	4.89	5.06
Feb.	5.35	5.05	5.27
Jan.	5.27	5.12	5.24

Annual Silver Prices 1979-1990

Year	High	Low	Avg.
1990	5.35	3.94	4.82
1989	6.20	5.02	5.47
1988	8.06	6.01	6.53
1987	11.25	5.35	6.99
1986	6.32	4.85	5.49
1985	6.89	5.48	6.14
1984	10.17	6.25	8.15
1983	14.74	8.38	11.46
1982	11.30	4.81	7.93
1981	16.53	7.97	10.53
1980	50.35	10.20	20.66
1979	35.00	5.93	11.20

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From Coins	23,466	21,424	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,625,528	2,360,434	2.3	2.8	2.7
From New Scrap (in-plant clippings, waste)*	2,545,764	2,079,682	1.9	2.4	2.5
TOTAL PRODUCTION	9,731,957	8,018,827	8.3	9.4	9.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	4,512,680	3,824,979	3.5	4.3	4.3
Shipped Out as 999 Silver	4,883,589	4,394,916	4.7	5.0	5.0
TOTAL DISPOSITION	9,396,269	8,219,895	8.2	9.3	9.4
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	335,688	(201,068)	0.8	0.7	-0.2
THESE REFINERS' STOCKS AT END OF PERIOD	1,105,388	769,700	1.1	1.2	0.3

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

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DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,353,461	4,512,680	3.5	4.3	4.3
Shipped Out as 999 Silver	5,084,199	4,883,589	4.8	5.0	5.0
TOTAL DISPOSITION	8,437,660	9,396,269	8.2	9.4	9.4
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	(331,684)	335,688	0.5	-0.2	-0.2
THESE REFINERS' STOCKS AT END OF PERIOD	773,704	1,105,388	0.8	0.3	0.3

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	DECEMBER 1990	NOVEMBER 1990	Jan-Dec 1990	Jan-Dec 1989	Full Year 1989
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	13,711,923	14,410,863	13.5	13.8	13.8
From Coins	592	2,461	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,524,241	3,662,183	3.6	4.1	4.1
From New Scrap (in-plant clippings, waste)*	1,157,802	949,177	0.9	1.5	1.5
TOTAL PRODUCTION	18,394,558	19,024,684	18.1	19.5	19.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,824,910	1,890,986	2.0	2.3	2.3
Shipped Out as 999 Silver	15,533,603	16,797,099	16.1	16.8	16.8
TOTAL DISPOSITION	17,358,513	18,688,085	18.1	19.2	19.2
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	1,036,045	336,599	-0.5	3.5	3.5
THESE REFINERS' STOCKS AT END OF PERIOD	10,607,279	9,571,234	10.6	11.1	11.1

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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THE SILVER INSTITUTE LETTER

WORLDWIDE INFORMATION ON SILVER

PUBLISHED SINCE 1971 **APRIL - MAY 1991**

INDIA IS BACK AS A MAJOR SILVER BUYER

Timothy Green reports from Bombay, India

The most unheralded supporter, even champion, of silver nowadays is India. The vast sub-continent has, of course, been a major consumer of silver for centuries. Much of Europe's trade with India was financed by the white metal from the 17th century onwards. Stocks there are estimated to exceed 100,000 tonnes (or 3.2 billion ounces).

In the late 1960s, however, as silver prices rose, the process reversed. India become a substantial exporter — over 500 million ounces were exported between 1967 and 1985 to take advantage of higher prices on the international market. But since 1986, India has reverted to its historic role — a huge consumer of silver, and the metal is flowing back in, albeit unofficially.

The local price shows the incentive: With silver around $4 an ounce internationally, the Bombay price is around $9 an ounce. During the whole of 1990, the Bombay price was always at least 90 percent over New York, and mostly the premium was close to 100 percent. India is estimated to have absorbed over 40 million ounces of silver from the international market in 1990 and the continued strength of the local price suggests it will take as much this year too.

Why the turnaround? And what is happening to all this silver? The first point is that local recycling within India virtually ceased in the 1980s. Previously, re-sale, often for distress reasons after poor harvests, had always been sufficient to meet domestic needs and often provided surplus for export. In 1980, for instance dishoarding of silver in India amounted to over 50 million ounces, of which, only 22 million was required for local industrial and jewelry use. The rest was available for export. During the 80s, however, much greater prosperity, especially from excellent harvests, caused this dishoarding to dry up. By 1989, it was a mere two million ounces. Last year, there was no measurable dishoarding.

Consequently, virtually all India's domestic needs now have to be met by unofficial imports, except for about one million ounces of by-product mine production. And domestic demand has escalated as India grows into a more mature economy.

During the last decade industrial requirements of silver for photography, plating, electronics and brazing alloys has easily doubled to reach around 20 million annually. The photographic industry alone needs around six million ounces as popular photography catches on, and relatively little of this silver is recycled. This industrial trend is set to continue for the rest of this century.

Equally important is the soaring demand for silver in a whole range of decorative and investment products. For a start, there are those gorgeous Indian saris, made in the city of Surat, which are often interwoven with silver thread. About three million ounces of silver is now woven into saris each year.

Silver ornaments and jewelry, still an essential form of saving for many of the families of India, are also booming and call for close to 10 million ounces annually. The farmer who has a good harvest may well put part of the proceeds into silver ornaments and they can form an essential part of a dowry at a marriage. Silver cutlery and utensils are also in vogue, especially in the cities. At two dinners I attended in homes of friends in Bombay, we ate from silver bowls.

Speaking of eating, wafer-thin tissues of silver foil are often included in sandwiches or are spread on sweetmeats. The silver is believed to be good for health and as an aphrodisiac. Indians eat at least one million ounces of silver a year!

The most interesting vogue, however, is the increasing use of silver coins and medals, often bearing the image of Indian gods, as gifts and commemorative items. Major Indian companies now give coins to their long-serving employees. At marriages, the guests are often given silver medals to mark the occasion by the groom's parents. **An Indian jeweler friend told me that when his brother got married recently, this was the silver gift inventory.**

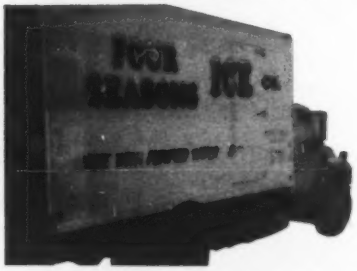
— 200 medals of 30 grams each to women who attended a pre-wedding gala evening;
— 500 specially made medals of 30 grams each for every guest at the wedding itself; and
— 70 kilos (2,250 ounces) of silver utensils as gifts to the bride and groom.

This is nearly 3,000 ounces of silver for a single wedding. Since India has over 10 million marriages each year, the gift sector alone is important.

India's per capita consumption of silver has doubled in 10 years.

Finally, it is worth remembering that India's population is over 800 million. In fact, many people are very poor and the actual per capita consumption of silver is small (it is about one-tenth the United States consumption per capita). But it has doubled during the last decade and the trend seems set for the 1990s. In short, look out for India taking even more silver in the years ahead.

HOW ABOUT SOME SILVER-ICED LEMONADE?



In Myrtle Beach, South Carolina, lemonade and other iced drinks are tasting a lot better these days — now that they don't have that "chlorine taste" anymore.

The secret to the improvement in the flavor of iced drinks in the Myrtle Beach hotels, restaurants, hospitals, marinas and camp grounds lies in Four Seasons Ice Company's use of the proven bactericidal properties of silver to produce healthful, refreshing bacteria-free ice.

"Four Seasons Ice Co. obtains its water from deep wells, chlorinates it to remove all live organisms, then filters it through activated carbon to remove all traces of chlorine. After this has been accomplished, silver ions are added to prevent any bacteria build-up in the water during storage, transfer in piping, or in the freezing process," according to Tommy Wood, president of **Caribbean Clear of Mystic Beach,** 251-C Myrtle Green Drive, Conway, SC 29526. This company supplied Four Seasons Ice Co. with silver ionizers that are based on technology developed by NASA for the Apollo missions.

The Four Seasons' system, installed by Southlantic Water Systems, Inc., produces about 80 tons of pure ice daily. This system was chosen over alternative processes because of the effectiveness and low cost of Caribbean Clear's silver ionization system.

Mr. Wood commented, "When one considers the high atmospheric exposure, and the high exposure to sunlight and warm temperatures [which otherwise would quickly evaporate chlorine away], then considers that the silver residual is maintained at 20 parts per billion, **costing approximately $80 annually,** this silver ionization system for drinking water sanitation is a very attractive alternative to traditional methods."

The ice plant is monitored weekly for bacteria by the State of South Carolina Department of Health & Environmental Control, using methods approved by the U.S. Environmental Agency. **To date, the bacteria counts have been consistently zero.**

Four Seasons Ice Co. is proud of the fact that after touring the plant and reviewing the consistency of the zero bacteria count data, the Myrtle Beach U.S. Air Force Base became one of its most important customers.

LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	FEBRUARY 1991	JANUARY 1991	Jan-Feb 1991	Jan-Feb 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	2,832,982	4,496,501	3.7	4.1	4.0
From Coins	0	23	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,395,672	2,124,251	2.3	2.4	2.3
From New Scrap (in-plant clippings, waste)*	1,486,006	2,146,661	1.8	1.9	1.9
TOTAL PRODUCTION	6,714,660	8,767,436	7.7	8.4	8.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,040,957	3,630,709	3.3	3.7	3.5
Shipped Out as 999 Silver	3,823,079	5,227,379	4.5	4.3	4.8
TOTAL DISPOSITION	6,864,036	8,858,088	7.9	7.9	8.2
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	-149,376	-90,652	-0.2	0.9	0.5
THESE REFINERS' STOCKS AT END OF PERIOD	533,676	683,052	0.5	1.2	0.8

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	FEBRUARY 1991	JANUARY 1991	Jan-Feb 1991	Jan-Feb 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	12,966,200	13,913,000	13.4	14.4	13.5
From Coins	0	351	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	4,176,039	3,833,197	4.0	3.2	3.6
From New Scrap (in-plant clippings, waste)*	905,332	848,850	0.9	1.0	0.9
TOTAL PRODUCTION	18,047,571	18,595,398	18.3	18.6	18.1
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,941,667	1,962,183	2.0	2.1	2.0
Shipped Out as 999 Silver	17,319,916	16,526,852	16.9	16.1	16.1
TOTAL DISPOSITION	19,261,583	18,489,035	18.9	18.2	18.1
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	-1,214,012	106,363	-1.1	0.8	-0.5
THESE REFINERS' STOCKS AT END OF PERIOD	9,499,630	10,713,642	9.5	12.0	10.6

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	JANUARY 1991	DECEMBER 1990	Jan 1991	Jan 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	4,496,501	4,013,983	4.5	4.1	4.0
From Coins	23	17	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,124,251	2,210,513	2.1	2.7	2.3
From New Scrap (in-plant clippings, waste)*	2,146,661	1,881,463	2.1	2.1	1.9
TOTAL PRODUCTION	8,767,436	8,105,976	8.8	8.9	8.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,630,709	3,353,461	3.6	4.1	3.5
Shipped Out as 999 Silver	5,227,379	5,084,199	5.2	4.4	4.8
TOTAL DISPOSITION	8,858,088	8,437,660	8.9	8.5	8.2
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	(90,652)	(331,684)	-0.1	0.5	0.5
THESE REFINERS' STOCKS AT END OF PERIOD	683,052	773,704	0.7	0.8	0.8

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	JANUARY 1991	DECEMBER 1990	Jan 1991	Jan 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	13,913,000	13,711,923	13.9	14.8	13.5
From Coins	351	592	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,833,197	3,524,241	3.8	3.0	3.6
From New Scrap (in-plant clippings, waste)*	848,850	1,157,802	0.8	1.2	0.9
TOTAL PRODUCTION	18,595,398	18,394,558	18.6	18.9	18.1
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,962,183	1,824,910	2.0	2.2	2.0
Shipped Out as 999 Silver	16,526,852	15,533,603	16.5	16.0	16.1
TOTAL DISPOSITION	18,489,035	17,358,513	18.5	18.2	18.1
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	106,363	1,036,045	0.1	0.7	-0.5
THESE REFINERS' STOCKS AT END OF PERIOD	10,713,642	10,607,279	10.7	11.8	10.6

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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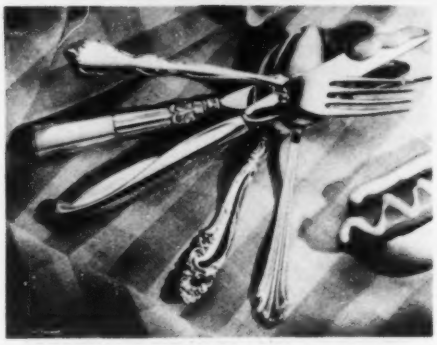
1991 STERLING SILVER ADVERTISING CAMPAIGN LAUNCHED BY SILVER TRUST INTERNATIONAL

The director of Silver Trust International (STI), Ms. Linda Meehan, recently unveiled details of STI's 1991 sterling silverware advertising campaign which will run through December. This year's cooperative partner is **Fortunoff,** a retailer with stores in New York and New Jersey.



"The campaign," according to Ms. Meehan, "consists of three one-page black and white advertisements. Each of the three ads highlights a particular collection of sterling silver flatware patterns exclusive to Fortunoff. The American Sterling collection, *seen at right,* includes classic patterns from well-known American manufacturers.

"The pieces from the English Sterling Collection are all hand-forged in London and Sheffield, England. The Continental Sterling Collection consists of fine crafted, large continental size patterns from Italy. Each advertisement features a black and white product shot with a touch of whimsy in the photography and echoed in the copy. The strategy is to align silver with creative elements that enrich and delight."

Before joining STI at its inception in 1988, Ms. Meehan was the director of marketing of Cartier, Inc. Prior to Cartier, she spent seven years at International Gold Corp., where she directed the successful introduction of fractional gold coins in the U.S. and launched Intergold's campaign to expand gold jewelry sales in Canada. Afterwards, she served as executive manager of Intergold's North American jewelry division.

As director of STI, Ms. Meehan is responsible for the development and management of marketing and educational programs designed to stimulate consumer purchases of sterling silver jewelry, tabletop, gift and investment products. Regarding STI's 1991 campaign, she said, "These ads convey several messages about the inherent value and special quantities of silver, such as sterling silver's statement about individuality, tradition and enhancing of everyday events."

She added, "This year's campaign is targeted to adults aged 25 to 54 who attended or graduated from college, and have household incomes of $50,000 or more. The campaign will run in epicurean, shelter, bridal, regional and lifestyle magazines in order to reach a broad audience. A direct response mechanism will be utilized in the form of a toll-free number for consumers to place orders or receive free pattern brochures and speak to a customer service representative."

Silver Trust International is a marketing organization supported by American, Canadian and Mexican mining company members of The Silver Institute.

Linda Meehan, Director
Silver Trust International

Advertisements for the English (left) and Continental (right) Sterling Collections.

NATIONS OFFER DELIGHTFUL VARIETY TO SILVER COIN COLLECTORS

The world's coin collectors look forward to Canada's annual contribution to their collections of silver coins. Recently, the Royal Canadian Mint added the 26th silver coin to this series of commemorative silver dollars that started in 1935. "Over the years, many ships have been depicted on Canadian coins" said Jack Julien, vice-president of Marketing. "Having a ship motif on this year's proof dollar is appropriate for two reasons. First, it recognizes a major event in the early navigation of Canadian waterways. And second, because feedback from our collectors has demonstrated the popularity of ship-related themes."

The "major event in early navigation" that is featured on this year's commemorative silver dollar is the **175th anniversary of the launching of the steamboat *Frontenac* on Lake Ontario** in September 1816. This, the first steamship on the Great Lakes carried passengers and freight on a regular scheduled route until 1827. The *Frontenac* coin, *shown above,* shows the steamboat passing at Gibraltar Point Lighthouse on Toronto Island. The 1991 silver proof dollars priced at $22.95 CAN ($19.50 US) and the brilliant uncirculated dollar $16.75 CAN ($14.60 US). Orders should be addressed to: **The Royal Canadian Mint,** Box 457, Station A, Ottawa, Ontario, K1N 9H3 Canada or call 1-800-267-1871 (#873).

On February 15, the U.S. unveiled a silver dollar coin, *shown below,* honoring the 50th Anniversary of one of America's most unique artistic accomplishments — the transformation of the face of an unknown mountain in the Black Hills of South Dakota into the majestic Mount Rushmore memorial.

The giant granite portraits of the four presidents are 60 feet tall, so huge that from brow to chin, each is taller than the Great Sphinx of Egypt. Additional information may be obtained from the Customer Service Center, U.S. Mint, 100001 Aerospace Drive, Lanham, MD 20806 or by calling 1-800-436-7400. A proof silver $1 coin is $31 US and a brilliant uncirculated $26 US.

The distinguished American sculptor, Gutzon Borglum, wanted the memorial to represent the American spirit and ideals of freedom, democracy, justice, and independence which he symbolized by the four presidents depicted on the mountain: **George Washington,** for his contribution to independence and the establishment of the government; **Thomas Jefferson,** as author of the Declaration of Independence; **Abraham Lincoln** preserved the Union, freed the slaves and preserved the principles for which Washington and Jefferson had fought; and **Theodore Roosevelt,** the "all- American President" who recognized the role of America in the world community.

FOR FUTURE REFERENCE: SILVER PRICES

1991	High	Low	Average
Mar.	4.20	3.70	3.96
Feb.	3.85	3.51	3.72
Jan.	4.29	3.76	4.03
Year	**High**	**Low**	**Avg.**
1990	5.35	3.94	4.82
1989	6.20	5.02	5.47
1988	8.06	6.01	6.53
1987	11.25	5.35	6.99
1986	6.32	4.85	5.49
1985	6.89	5.48	6.14
1984	10.17	6.25	8.15
1983	14.74	8.38	11.46
1982	11.30	4.81	7.93
1981	16.53	7.97	10.53
1980	50.35	10.20	20.66
1979	35.00	5.93	11.20

COMEX

It's coming . . .

THE SILVER INSTITUTE
1991 ANNUAL MEETING
JULY 28-30
to the . . .

Coeur d'Alene Resort, Idaho
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Editor, David U. Groves

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THE SILVER INSTITUTE LETTER

WORLDWIDE INFORMATION ON SILVER

PUBLISHED SINCE 1971 JUNE-JULY 1991

SILVER DEMAND EXCEEDS SUPPLIES FOR FIRST TIME SINCE 1978

For the first time since 1978, silver fabrication demand exceeded silver supply by 24.4 million ounces during 1990, according to the annual statistical review, *World Silver Survey, 1991,* released on June 4 at the New York Society of Security Analysts during a briefing session by the publisher, The Silver Institute.

The *Survey* reports that the 1990 shift in the market balance of silver supply and demand was caused by a reduction in the supply of silver from mine production and secondary sources to 500.6 million ounces while silver consumption by the photographic, jewelry, electronic silverware and coinage industries totaled 525 million ounces.

A. Brown, Hecla Mining Co. and Silver Institute; J. Christian, CPM Group; and J. Lutley, Silver Institute present World Silver Survey 1991 highlights to analysts and media persons in New York City.

Silver Institute members and guests enjoy mock trading session sponsored by COMEX.

Silver Production Slows

Growth in silver mine production was slowed to 1.2% because of the slump in silver prices which caused mining companies to scale back or shut down their operations. As the prices of silver fell, so did secondary supplies, dropping 13% during 1990 and bringing total supply down by almost 3%.

"Not only has 1990 mine production risen more slowly than expected, but 1991 projections show a 2% decline. Also, compared with last year, more than 74 million ounces of future production has been cut from the plans for the three years 1991-1993," said John Lutley, Executive Director of The Silver Institute.

Global Demand for Silver Up 6%!

According to the *Survey,* worldwide consumption increased 6%, from 495.5 million ounces in 1989 to 525 million in 1990. Half of that 29.5 million ounces increase was attributed to *increased Indian demand* which grew from 27 million ounces in 1989 to 41.8 million in 1990. India is now the fourth largest silver consuming nation in the world.

Also contributing to the global demand for silver were: A 4.3% increase in photographic demand for silver in industrialized countries; a 3.8% increase in worldwide use of silver in jewelry and silverware; and a 6% increase in silver use in electronics in Japan.

During 1991, the *Survey* projections indicate that fabrication demand for silver will again outpace supply by about 32 million ounces.

Copies of the *World Silver Survey, 1991,* may be obtained from The Silver Institute, 1112 Sixteenth Street, N.W., Suite 240, Washington, D.C. 20036 for US$15.00 in North America and US$20.00 for all other countries.

PERUVIAN SILVER MINING INDUSTRY SEEKS GLOBAL MARKET

In 1990, Peru's mines produced 54.8 million ounces of silver, making it the third largest producer of silver. In April, the XX National Convention of Mining Engineers of Peru met to study the industry's current situation and alternative roads to the healthy development of the Peruvian silver mining industry.

Underlining the importance that the Peruvians attach to the international market, the Convention's first speaker was the Executive Director of The Silver Institute, John Lutley, who provided the Convention with

detailed statistical information on the most important aspects of the international silver market. Other speakers described the challenges facing Peru's silver mining industry, the environment and mining, hedging, and many other subjects.

Challenges facing the Peruvian silver industry include surviving the current period of low prices, terrorism and the lack of financial resources. The second challenge is to make the industry more competitive by reducing costs, increasing productivity and obtaining a stable exchange rate. Another challenge is found in the large discoveries of silver that have not been mined. Speakers noted that Peru has vast mineral resources that have been thoroughly studied but can not be developed without international financial backing.

The Silver Institute participated in the 20th National Convention of Mining Engineers of Peru.

Both speakers and convention delegates told Mr. Lutley that **the silver mining industry and the Peruvian government will welcome risk capital to be invested in the silver mining industry.** Among Peru's larger silver mines, foreign investments already represent 5% of total investment, and in the case of middle to small mining firms, foreign investment accounts for 15%.

Mr. Lutley also learned that many Peruvian mining industry leaders believe that although Peru hopes to increase its own consumption of silver through sales of Peru's "certificado de plata" to local investors, increased minting of silver coins and expanded use of silver in the manufacture of silver jewelry, hollowware, other decorative, electronic and medical products, they feel that the Peruvian market is simply too small to absorb its silver. They suggest that its best possibilities are to be found in the international market.

One result of Peru's new "international look" may be found in the fact that the Board of Directors of The Silver Institute recently welcomed to membership two of Peru's largest silver mining firms, **Minpeco S.A.,** represented by Mr. Pedro Menendez Richter, and **Cia. de Minas Buenaventura S.A.,** represented by Mr. Alberto Benevides.

DRAMATIC GROWTH OF USE OF SILVER BY AUTOMOTIVE INDUSTRY

by Samuel F. Etris

For generations, the primary role for silver in automobiles was in the silver contacts in switches used in the electrical systems which still control the operation of cars and their accessories.

Then, in the 1950s, silver began to play a new role as the key ingredient used in the production of the thin brown heater lines on rear windows.

Number of Models with Silvered Windshields

	Model Years		
Automobile Co.	1986	1990	1991
Ford	2	7	7
General Motors	0	4	12
Nissan	0	0	3
Toyota	0	0	4
TOTAL	**2**	**11**	**26**

These tiny silver-ceramic heater lines proved to be capable of melting away any hazardous build-up of ice and snow and are now standard equipment on all U.S.-built cars, and on most of the 33 million automobiles manufactured in 1989 throughout the world. Five years ago, electrically-powered silver-coated windshields were first used in two models of Ford Motor Car Co. to permit safe driving in the coldest weather. *As shown above*, by Model Year 1991, 26 models of cars made by four major U.S. and Japanese companies use silvered windshields.

LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	MARCH 1991	FEBRUARY 1991	Jan-Mar 1991	Jan-Mar 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	3,464,530	2,832,982	3.6	3.7	4.0
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,173,614	2,395,672	2.2	2.4	2.3
From New Scrap (in-plant clippings, waste)*	1,739,800	1,486,006	1.8	1.8	1.9
TOTAL PRODUCTION	7,377,944	6,714,660	7.6	8.0	8.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,118,226	3,040,957	3.3	3.3	3.5
Shipped Out as 999 Silver	4,233,100	3,823,079	4.4	4.3	4.8
TOTAL DISPOSITION	7,351,326	6,864,036	7.7	7.7	8.2
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	26,618	-149,376	-0.2	0.8	0.5
THESE REFINERS' STOCKS AT END OF PERIOD	560,294	533,676	0.6	1.1	0.8

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	MARCH 1991	FEBRUARY 1991	Jan-Mar 1991	Jan-Mar 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE				MONTHLY RATE	
From Primary Materials (ores & concentrates)	12,525,707	12,966,200	13.1	14.5	13.5
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	4,401,716	4,176,039	4.1	3.4	3.6
From New Scrap (in-plant clippings, waste)*	921,372	905,332	0.9	0.9	0.9
TOTAL PRODUCTION	17,848,795	18,047,571	18.2	18.9	18.1
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,933,060	1,941,667	1.9	2.1	2.0
Shipped Out as 999 Silver	16,163,951	17,319,916	16.7	15.9	16.1
TOTAL DISPOSITION	18,097,011	19,261,583	18.6	18.1	18.1
RESULTING CHANGE OF THESE REFINERS'				TOTAL FOR PERIOD	
STOCKS (Production Minus Disposition)	-248,216	-1,214,012	-1.4	2.4	-0.5
THESE REFINERS' STOCKS AT END OF PERIOD	9,251,414	9,499,630	9.3	13.5	10.6

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

THE SILVER INSTITUTE
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LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	APRIL 1991	MARCH 1991	Jan-Apr 1991	Jan-Apr 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	3,257,599	3,464,530	3.5	3.8	4.0
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	1,931,890	2,173,614	2.2	2.5	2.3
From New Scrap (in-plant clippings, waste)*	2,144,029	1,739,800	1.9	1.8	1.9
TOTAL PRODUCTION	7,333,518	7,377,944	7.5	8.2	8.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,455,857	3,118,226	3.3	3.5	3.5
Shipped Out as 999 Silver	3,768,996	4,233,100	4.3	4.5	4.8
TOTAL DISPOSITION	7,224,853	7,351,326	7.6	8.0	8.2
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	108,665	26,618	-0.1	0.7	0.5
THESE REFINERS' STOCKS AT END OF PERIOD	668,959	560,294	0.7	1.0	0.8

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	APRIL 1991	MARCH 1991	Jan-Apr 1991	Jan-Apr 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	14,969,522	12,525,707	13.6	14.2	13.5
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	4,246,256	4,401,716	4.2	3.5	3.6
From New Scrap (in-plant clippings, waste)*	921,112	921,372	0.9	0.9	0.9
TOTAL PRODUCTION	20,136,890	17,848,795	18.7	18.6	18.1
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,774,315	1,933,060	1.9	2.1	2.0
Shipped Out as 999 Silver	17,771,520	16,163,951	16.9	16.2	16.1
TOTAL DISPOSITION	19,545,835	18,097,011	18.8	18.3	18.1
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	591,055	-248,216	-0.8	1.1	-0.5
THESE REFINERS' STOCKS AT END OF PERIOD	9,842,469	9,251,414	9.8	12.2	10.6

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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About 3/4 ounce of silver is used in the sputtering of a thin, invisible coating on each automobile windshield. Invisible or not, this silver coating — when powered — clears ice and snow off of the windshield within two minutes. Two years ago, General Motors introduced a non-electrically heated or passive silver-coated windshield. This reflects away heat, thus reducing heat build-up under a hot summer sun.

Passive silver-coated windshields became standard for the large windshield on all GM 1990 "All Purpose Vehicles" manufactured by Chevrolet, Pontiac and Oldsmobile. Three Nissan and four Toyota 1991 models, marketed only in Japan, have passive silver-coated windshields.

Samuel F. Etris is Senior Technical Consultant of The Silver Institute and may be reached on telephone (215) 254-9652.

CENTURIES OLD SILVER JEWELRY TRADITION MAKES COMEBACK

by Diana Shiel

Throughout the ages, silver jewelry has been associated with magical powers; believed to promote healing; and, displayed as a status symbol. While these beliefs are not part of mainstream 20th century thinking, some people still hold them true today.

Indeed, silver has been held in high esteem since it was mined approximately 4,000 B.C. in Asia Minor. In earliest Egyptian records, it was considered more valuable than gold.

Interestingly, with all of silver's supposed magical power, owning silver at various times was restricted, especially if it was in the form of jewelry. Throughout history, wearing silver jewelry was often a social privilege — not a right — reserved for the upper classes.

By the 18th century, social mores began to change in Europe and a new fashion fad surfaced: silver buckles appeared on shoes where laces had always been. Although today we generally consider shoe buckles to be functional items, back in the 18th century, they were a form of daytime jewelry.

Associated with mystical powers, silver icons and amulets have have been worn for centuries in the hope of bringing good luck. Shown: sterling silver jewelry inspired by the past but with a look of the nineties. . . icon drop earrings and stacked bangles with dangling icon charms by Kerry MacBride; link necklace by Alice Abrams; and rings with stone and 18 karat gold accents by Jane Bohan.

Overall, silver jewelry was a significant indicator of status until the very end of the 18th century, because it was limited to a privileged few. It was the Industrial Revolution, through mass manufacturing, that finally made silver jewelry available to the general population.

Besides signifying status, silver has long been associated with mystical properties and magical symbols. In time, these symbols found their way onto silver amulets and chains, which were worn in the hope of warding off evil spirits and bringing good luck.

America also has its own heritage in jewelry silversmithing dating to the colonial period and American Indian tribes. Indeed, it was from the American Indian cultures that the last silver jewelry boom stemmed. Indian-designed sterling silver pieces, especially those set with turquoise, enjoyed a period of popularity in the sixties and seventies.

Once again, silver jewelry's popularity is on the rebound, with retail sales climbing, the Director of the Silver Information Center, Linda Meehan reports.

According to the Silver Information Center, silver's comeback is due to its uncanny ability to combine the endurance of a precious metal and adapt easily to fashion's demands. Its appealing white gleam and polished, bold shapes are ideally suited to this year's sixties inspired clothing styles.

Silver's affordability has also played a vital role for both jewelry designers and consumers alike. Today's most creative and innovative designers are attracted to sterling due to its low price and the fact that it's so malleable and can be shaped into infinite forms.

At a time when everyone seems to be cutting costs, yet in need of giving their spirits as well as their wardrobes a lift, retailers around the country are reportedly well-stocked with a wide selection of the "hottest" sterling looks at inexpensive prices. Unlike costume jewelry, sterling silver endures and can be enjoyed for a lifetime, and is more affordable than other precious metal.

To be assured you're buying the real thing, always look for the stamp, "Sterling" or "925".

With today's anti-tarnishing processes, as well as easy cleaning techniques, caring for sterling silver jewelry is simpler than ever. Add to this silver's value, durability, fashionability and consistent quality, and it is no wonder that it has retained its popularity over time.

For a free brochure on silver jewelry, please write to the Silver Information Center, 295 Madison Avenue, 19th Floor, New York, NY 10017.

U.S. MINT CREATES A TRIBUTE TO KOREAN WAR VETERANS

U.S. Treasurer, Catalina Vasquez Villapando has announced the sale of a limited-edition silver dollar, the 1991 Korean War Memorial Coin. This coin commemorates the 38th anniversary of the conclusion of the Korean War and honors the 1.5 million Americans who served from 1950 to 1953.

Not more than one million silver dollars, in proof and uncirculated versions, will be issued — **the lowest authorized mintage of a U.S. commemorative silver dollar since the Lafayette Dollar of 1900.**

With such a limited mintage and with wide appeal among both collectors and veterans, a sellout of this "modern rarity" is very likely. In this case, the surcharge of $7, included in the price of each coin, will add up to a contribution of $7,000,000 to the construction of the Korean War Veterans' Memorial.

Depicted on the obverse side *(above, left)* of the coin is an infantryman charging up a hill, with naval ships in the foreground, and F-86 aircraft flying overhead. The reverse design *(above, right)* features a map of Korea with a bust of the American Bald Eagle.

A single Silver Dollar Proof sells for $US31.00 and the single Silver Dollar Uncirculated for $US26.00. For more information about purchasing these coins, please call 1-800-652-3838 or write to Customer Service Center, U.S. Mint, 10001 Aereospace Drive, Lanham, MD 20706. (301/436-7400)

FOR FUTURE REFERENCE: SILVER PRICES

1991	High	Low	Average
May	4.15	3.94	4.04
Apr.	4.09	3.90	3.97
Mar.	4.16	3.95	3.96
Feb.	3.85	3.51	3.72
Jan.	4.29	3.76	4.03
Year	**High**	**Low**	**Average**
1990	5.35	3.94	4.82
1989	6.20	5.02	5.47
1988	8.06	6.01	6.53
1987	11.25	5.35	6.99
1986	6.32	4.85	5.49
1985	6.89	5.48	6.14
1984	10.17	6.25	8.15
1983	14.74	8.38	11.46
1982	11.30	4.81	7.93
1981	16.53	7.97	10.53
1980	50.35	10.20	20.66
1979	35.00	5.93	11.20

COMEX

BEST U.S. RESORT SITE OF SILVER CONFERENCE

The Silver Institute reminds its members that the 1991 Annual Meeting & Conference, which will feature an expert analysis of the *International and Political Outlook for the Silver Industry,* will be held July 28-30 at the Coeur d'Alene Resort, which readers of Conde' Nast Traveler Magazine voted the BEST U.S. Mainland Resort! **Call Magda Boiko today at 1 (202) 835-0185 for details!**

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Editor, David U. Groves

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THE SILVER INSTITUTE LETTER

WORLDWIDE INFORMATION ON SILVER

PUBLISHED SINCE 1971 **AUGUST-SEPTEMBER 1991**

FAVORABLE OUTLOOK FOR SILVER USE IN PHOTOGRAPHY

A conservative forecast "means that the demand for silver in the photographic industry may be expected to increase by about 3% per year for the next five years to about 225 million troy ounces in 1995," according to a speech delivered by Peter Krause, Vice President, Imaging Technology/Markets, at the 1991 Annual Conference of The Silver Institute held July 28-30 in Coeur d'Alene, Idaho.

Five years ago, during 1986, the photographic industry used 161.1 million troy ounces of silver. This figure grew an average of 4.8% per year to 194 million ounces — or 38.8% of all industrial use of silver — in 1991.

New Kodak products generate more sales of silver halide film.

Mr. Krause quoted Dr. Y. Oishi, Research Director of Fuji Photo Film Co. as saying, "The following advances may be predicted in important fields of application of silver-based photography: (1) ***General picture taking:*** The superiority of silver halide type materials in still photography will not change in the future. . .the challenges from other imaging technologies will be countered by further advances in the functions of the silver-based materials. (2) ***Medical diagnostic imaging:*** In the field of X-ray image diagnostics, silver halide film will keep the top position. . .however, the wider use of new diagnostic systems, such as nuclear magnetic resonance and ultra-sound, will bring some downward trend in the demand for screen type films, but an increase in the use of photographic films of low coating weight for CRT and laser beam recording. (3) ***Graphic Arts:*** Overall consumption of films and papers will trend upward because of the large increase in volume of publications and the shift from black & white to color printing.

"The preceding review indicates that silver halide based material will continue to be used in areas where high speed, high image quality and/or high information density are the primary need. . .at an annual growth of 5% or slightly lower. Furthermore, the propagation of photographic technology in countries of expected rapid economic growth will bring an additional increase in the production of photographic materials."

Mr. Krause also noted, "One new system that is intended to forestall the demise of conventional silver halide snapshooting is **Kodak's new Photo CD systems.** This was announced last October and is to be introduced next year. The Photo CD system allows the transfer of one hundred 35mm photographs (typically color negatives or slides) onto a compact disc for viewing on TV sets worldwide. . .Photo CD will also open up inexpensive access to high quality color photographic images to personal computer users. The rationale behind the development of the Photo CD system is that over 250 million 35mm cameras are now in use worldwide. These account for over 85% of the roughly 50 billion photographs taken each year. The quality, cost and convenience of this imaging system will not be equalled or surpassed soon, but the appeal and usefulness of the system can be expanded significantly by providing an affordable and convenient link with electronic imaging and play-back devices.

"If all works out as expected, the consumption of color film and color paper will expand at more than the 4-5% predicted during the past years."

MEXICO OFFERS INVESTMENT OPPORTUNITIES AND COOPERATION

Members of The Silver Institute who attended the Institute's 1991 Annual Conference which was held recently in Coeur d'Alene, Idaho welcomed Mexico's Deputy Minister of Mines, Alfredo Elias Ayub, and applauded his: public recognition of the importance of the role of The Silver Institute; uniquely frank report on Mexico's economic problems and efforts to solve them; explanation of what Mexico has done to attract

Attending The Silver Institute meeting (L to R) Javier Altamirano, Industrias Penoles, S.A.; Guillermo Molinar, Industrial Minera Mexico, S.A.; Don Phillips, Asst. U.S. Trade Representative; Alfredo Elias Ayub, Deputy Minister of Mines, Mexico.

foreign investment in mining; and his confirmation of economic support of the activities of The Silver Institute and Silver Trust International by private Mexican mining firms.

Deputy Minister Elias told Silver Institute members that for the past three years the Mexican government has been carrying out a program which has: reduced Mexico's fiscal deficit; lowered the annual rate of inflation from 150% to 15%; created an effective working relationship between government, business and labor; promoted international trade by reducing trade barriers; deregulated mining, transportation and many other industries; converted 500 government-owned businesses into private enterprises; and opened the door to foreign investments in mining and other businesses and industries.

Insofar as mining is concerned, the Minister noted that the Mexican mining industry is of major importance to Mexico's economy because it provides 250,000 jobs in parts of Mexico where alternate sources of employment simply don't exist. To support the growth of this industry, the government has eliminated the "mining tax", opened more government-owned land to exploration by private mining firms, increased the tax on idle mining claims and has facilitated the entry of foreign firms into the mining industry.

Deputy Minister Elias expressed concern over the lack of independent and objective statistics on worldwide silver production based on refinery output and on the global silver inventory. The Minister said that he believes that most current estimates of silver supplies are overstated because much of the silver inventory has quality problems and even more silver in the form of long-term personal holdings (such as tableware and jewelry), collectibles or investments that may never enter the market.

In concluding, the Minister announced that Mexico's "largest silver producers" have agreed to contribute one and a half cents for each ounce of silver produced to support activities of The Silver Institute and Silver Trust International, including: objective, third party reports on global silver refinery production and inventory; STI promotions of silver jewelry and other consumer products; finding new uses for silver; and promoting the sale and improved distribution of silver commemorative coinages such as coins marking the 500th Anniversary of Columbus' discovery of the New World.

(Promociones Industriales Banamex SA de CV, Av. de la Alborada No. 124, Col. Parques del Pedregal, 14010 Mexico DF MEXICO has produced an excellent booklet for potential investors called, "Mexico - The Mining Industry". Order by writing to the above address or by FAX to 606-8452 or by calling 606-6319.)

USE OF SILVER IN COINAGE REACHES HIGHEST LEVEL SINCE 1975

Seventy-one nations used 31.5 million ounces to mint 283 issues of silver commemorative and bullion coins ~~in 1990~~ according to the newest edition of *Modern Silver Coinage*, a research publication issued by The Silver Institute. Consumption in 1990 increased 20% over the 26.3 million ounces used for coinage in 1989. This is the highest level of silver in coinage since 1975 when the use of 33.4 million ounces was driven by coins issued in anticipation of the 1976 Canadian Olympic Games.

The top six users of silver in coinage in 1990 were: the United States (9.1 million ounces), Japan (8.9), Germany (2.4), France (2.3), Canada (1.9) and Mexico (1.2 million ounces).

"The Silver Institute estimated in its recently issued *World Silver Survey 1991* that silver consumption for coinage in 1990 would be 25 million ounces. We are pleased to see that our original estimate was conservative and that actual consumption was at the highest level in over a decade," said John Lutley, Executive Director of The Silver Institute. This revised statistic increases the 1990 silver deficit between supply and demand from 24.4 million ounces to 30 million ounces — the highest level in more than a decade.

LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	MAY 1991	APRIL 1991	Jan-May 1991	Jan-May 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	4,392,609	3,257,599	3.7	4.0	4.0
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,733,471	1,931,890	2.3	2.4	2.3
From New Scrap (in-plant clippings, waste)*	2,036,029	2,144,029	1.9	1.8	1.9
TOTAL PRODUCTION	9,162,109	7,333,518	7.9	8.2	8.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,992,689	3,455,857	3.4	3.5	3.5
Shipped Out as 999 Silver	5,381,840	3,768,996	4.5	4.6	4.8
TOTAL DISPOSITION	9,374,529	7,224,853	7.9	8.1	8.2
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	-212,420	108,665	-0.3	0.9	0.5
THESE REFINERS' STOCKS AT END OF PERIOD	456,539	668,959	0.5	1.2	0.8

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	MAY 1991	APRIL 1991	Jan-May 1991	Jan-May 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	14,016,216	14,969,522	13.7	14.0	13.5
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,920,945	4,246,256	4.1	3.6	3.6
From New Scrap (in-plant clippings, waste)*	794,438	921,112	0.9	0.9	0.9
TOTAL PRODUCTION	18,731,599	20,136,890	18.7	18.6	18.1
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,878,741	1,774,315	1.9	2.1	2.0
Shipped Out as 999 Silver	17,509,570	17,771,520	17.1	16.7	16.1
TOTAL DISPOSITION	19,388,311	19,545,835	19.0	18.8	18.1
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	-656,712	591,055	-1.4	-1.0	-0.5
THESE REFINERS' STOCKS AT END OF PERIOD	9,185,757	9,842,469	9.2	10.1	10.6

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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Production and Disposition of 999 Silver by All Known Refiners in the United States

	TROY OUNCES		MILLION TROY OUNCES		
	JUNE 1991	MAY 1991	Jan-Jun 1991	Jan-Jun 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	3,500,130	4,392,609	3.7	4.0	4.0
From Coins	2,859	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	2,015,902	2,733,471	2.2	2.4	2.3
From New Scrap (in-plant clippings, waste)*	2,059,907	2,036,029	1.9	1.9	1.9
TOTAL PRODUCTION	7,578,798	9,162,109	7.8	8.3	8.3
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,408,271	3,992,689	3.4	3.5	3.5
Shipped Out as 999 Silver	4,019,121	5,381,840	4.4	4.7	4.8
TOTAL DISPOSITION	7,427,392	9,374,529	7.9	8.2	8.2
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	151,406	-212,420	-0.2	0.6	0.5
THESE REFINERS' STOCKS AT END OF PERIOD	607,945	456,539	0.6	0.9	0.8

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	JUNE 1991	MAY 1991	Jan-Jun 1991	Jan-Jun 1990	Full Year 1990
THESE REFINERS' PRODUCTION, BY SOURCE			MONTHLY RATE		
From Primary Materials (ores & concentrates)	13,730,581	14,016,216	13.7	13.9	13.5
From Coins	31	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	3,764,740	3,920,945	4.1	3.6	3.6
From New Scrap (in-plant clippings, waste)*	817,612	794,438	0.9	0.9	0.9
TOTAL PRODUCTION	18,312,964	18,731,599	18.6	18.4	18.1
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,763,230	1,878,741	1.9	2.1	2.0
Shipped Out as 999 Silver	16,168,812	17,509,570	16.9	16.7	16.1
TOTAL DISPOSITION	17,932,042	19,388,311	18.8	18.8	18.1
RESULTING CHANGE OF THESE REFINERS'			TOTAL FOR PERIOD		
STOCKS (Production Minus Disposition)	380,922	-656,712	-1.0	-2.4	-0.5
THESE REFINERS' STOCKS AT END OF PERIOD	9,566,679	9,185,757	9.6	8.7	10.6

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

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The most popular silver bullion coin in 1990 was the American Eagle Silver Dollar. Sales of the American Eagle Silver Dollar increased from 6.8 million in 1989 to 7.9 million in 1990, accounting for 69% of the 11.4 million troy ounces of silver used worldwide for bullion coins.

Most of the strength of the global silver coin market depended on the sale of commemorative silver coins to coin collectors. In 1990, silver commemorative coins consumed 20.1 million ounces for an increase of 38% over 1989's 14.5 million troy ounces! The most popular silver commemorative coin was Japan's 5,000 Yen coin *(shown at right)* which commemorated the International Garden and Greenery Exposition in Osaka in 1990 and used 4.5 million ounces.

One of the most interesting silver commemorative coins issued in 1990 was minted by Australia to mark the bicentennial of European settlement in Australia and honor Aboriginal art. Australia's original 1813 Holey Dollars and Dumps were its first legal currency. The 1990 Holey Dollar and Dump set *(see below left)* shows an Aboriginal conception of two spirit men spearing a Barramundi fish from a tree on the Dollar while the 1990 Dump depicts three dancing "mimi" spirits from an ancient Aboriginal bark painting. For additional information, please contact Goldcorp Australia, Perth Mint Building, 310 Hay Street, East Perth W.A. 6004 or, in the USA, **Gold Corp Australia, P.O. Box 711, Cooperstown, NY 13326.**

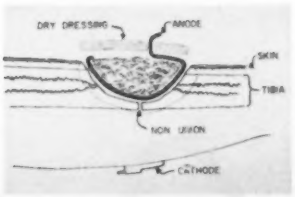
Use of silver in coinage in 1991 is maintaining its pace due to high investor demand for American Eagle Silver Dollars and global collector interest in adding new silver coinage to their collections. One series that has captured the interest of both aviation buffs and collectors of Canadian silver coinage is the **Powered Flight in Canada** series. The Royal Canadian Mint's 1991 set of sterling silver coins, *(shown above center)* shows the first powered, controlled, heavier than air machine flight in Canada -- that of the Silver Dart. The second coin depicts one of Canada's most famous bush planes, the de Haviland Beaver which was first flown in 1947. Each coin contains a troy ounce of silver and has a 24-karat gold-covered cameo insert bearing portraits of men who were instrumental in the development of these historic aircraft. A maximum of only 50,000 of each coin will be sold worldwide. **To order, contact the Royal Canadian Mint, Box 457, Station A, Ottawa, Ontario K1N 9H3 Canada or call 1-800-267-1871 #599.**

Silver consumption for coinage is expected to increase in both 1991 and 1992 in order to meet surging collector-demand for commemorative coins that mark the 500th anniversary of Columbus' discovery of the New World — the new Jamaican $10 silver coin *(pictured above right)* — and the 1992 Olympic Games. At least eleven nations are issuing Columbus coins and several plan to issue coins honoring the Olympic Games.

Modern Silver Coinage 1990 is a unique reference work as it is the only single source of reliable information on the use of silver in modern commemorative and bullion coins. The book is prepared in cooperation with the world's mint directors, governors of central banks, ministers of finance and numismatic experts. **This publication may be purchased for US$40 from The Silver Institute, Suite 240, 1112 Sixteenth Street, N.W., Washington DC 20036.**

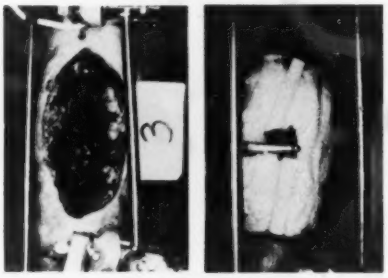
SILVER SAVES 100 HANDS

by Samuel F. Etris, Senior Technical Consultant of The Silver Institute Tel: (215) 254-9652.



Over 100 regenerations of healthy skin on wounded hands and fingers, as well as wounds on arms and legs, have been achieved through the use of silver-ion techniques developed at the Mountain Medical Specialties. P.O. Box 2047, Clayton, GA 30525, under the direction of Arthur B. Flick, M.D.

Loss of skin from hands and fingers presents a most difficult medical problem because the skin of the palm is thick and has a different sensory response than skin of other parts of the body. Skin grafted on the palm from another part of the body results in a limitation of motion and unsightly scarification around the edges of the graft. Furthermore, the patient would be without the sensation of a normal palm because nerves are not regenerated in grafted skin.



Massive skin wounds achieve full recovery at the Mountain Medical Specialties, Clayton, GA. Dressings with silver electrodes require only weekly visits to the clinic and result in completely regenerated skin.

However, according to Dr. Robert O. Becker, M.D., Consultant in Biomedical Sciences, Lowville, N.Y., "The use of the silver technique results in rapid regeneration of normal, full thickness, flexible skin of the type that was removed by the wound." **Patients with acute hand and finger injuries achieve full recovery and within three to six months, no trace of injury is visible.** Most patients are able to report back to their jobs in a few weeks time.

"All one needs to do with silver," says Dr. Becker, "is to clean the wound, put the silver dressing on and start the current flowing. The patient is then shown how to care for it and is sent home with a package of silver electrodes. He then comes in weekly for about 30 days, by which time the wound has healed with normal, full thickness of skin with complete sensory function. The skin has been regenerated in all of its complex tissue morphology."

"SILVER VALLEY" HOSTS SILVER INSTITUTE'S 1991 ANNUAL CONFERENCE

Over 100 members and guests of The Silver Institute attended the Annual Meeting of the Institute and its Conference on "The International & Political Outlook for the Silver Industry", held in Coeur d'Alene, Idaho on July 28-30.

Institute members enjoy the Sunday Welcoming Sunset Dinner Cruise. (Clockwise from top right) Paul Warrington, Noranda Sales Corp., Inc.; Richard Searle, Handy & Harman; Marta and Javier Altamirano, Industrias Penoles, S.A.; Peg Butler; Ed Hoffstatter, Sharps Pixley.

The Conference featured informative and authoritative talks on the **Washington Outlook** by Former U.S. Senator, Jim McClure; **Mexico-U.S.-Canada Free Trade** by the Assistant U.S. Trade Representative, Donald Phillips; **World Affairs & Country Risk Assessment** by the president of the Center for Democracy, Prof. Allen Weinstein; **Silver in Mexico** by the Deputy Minister of Mines of Mexico, Alfredo Elías Ayub; **Global Impact of Peruvian Silver Production** by the Managing Director of Corporacion Minera Nor Peru, SA, Victor Raul Eyzaguirre; **U.S. Silver** by Analyst Clare Hunter of the CPM Group; **Silver—A Market in Deficit** by the President of American Precious Metals Advisors, Jeff Nichols; **Outlook for Silver Use in Photography** by VP of

Imaging Technology/Markets, Peter Krause; **Increasing Demand for Silver,** by VP Marketing & Sales, Reed & Barton Silversmiths, Anthony LaChapelle; and a **Point & Counter Point Session on Investment & Price** by Richard Hajdukiewicz, VP, J. Aron, James Turk, Money Manager and James Culver, Group VP, Merrill Lynch. Also featured was *The Artistry and Beauty of Sterling Silver* display, which included the winning entries of the 1991 National Student Sterling Design Competition in addition to silver jewelry, logo pieces, sculptures and medallions produced by local craftsmen and silversmiths. Sunshine Bullion Co. was an integral part of the display and attendees had the opportunity to tour Sunshine's Mint. The display was coordinated by Rick and Joan Colgan of Medallion Consultants, Kellog, Idaho.

General Session.

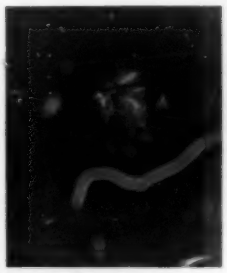
Speakers (L to R) Jeffrey Nichols, American Precious Metals Advisor; Jim Turk, Money Manager; Jim Culver, Merrill Lynch.

Jackie Wheeler (L) presenting a Door Prize to Tiia Brown.

Former U.S. Senator Jim McClure.

(L to R) Peter Krause, speaker, Imaging Technology/Markets; Tom Albanese, NERCO Minerals Company.

Dr. Allen Weinstein, speaker, The Center for Democracy.



Speakers (L to R) Donald Phillips, Asst. U.S. Trade Representative; Anthony LaChapelle, Reed & Barton Silversmiths.

(L to R) Margaret Grandison; Clifford Grandison, Placer Dome, Inc.

(Bottom left) Dennis Wheeler, CDA Mines, presenting Matthew Morrow, first place winner of the National Student Sterling Design Competition, with his check; (Above) Tiia Brown presenting a Door Prize to Hortensia Molinar; (Botton right) Stan Steinberg, Prudential - Bache, presenting golf award to Claude Azieres, Engelhard Corp.

Brief highlight digests of several Conference speeches will appear in future issues of *The Silver Letter.* The complete text of the talks will be published in book form and may be ordered from The Silver Institute for US$95. Outside USA US$110. Checks must be drawn on a US bank.

NATIONAL STUDENT STERLING DESIGN COMPETITION WINNERS

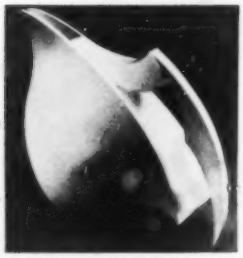


Photo by Armstrong

"Sterling Silver Pitcher" by Matthew Sterling Morrow, Texas Tech U. — First Prize.

The final judging of the sterling designs for the National Sterling Design competition was recently held in New York.

A field of 114 entries from more than 30 colleges and universities were narrowed down to 10 award winners, a special prize winner for Best Flatware entry, and 9 entries selected for exhibition. The judges placed special emphasis on designs which expressed the beauty and elegance of silver as a material in original form for use on tabletops, jewelry, fine art and sculpture.

Major sponsors of the National Student Sterling Design Competition are Coeur d'Alene Mines, Silver Trust International (STI), the consumer marketing division of The Silver Institute which is supported by U.S., Canadian and Mexican member companies of the Institute to stimulate consumer demand for sterling silver products. ASARCO, Inc. also gave important financial assistance for the design competition and the design and printing of a promotional brochure was underwritten by Nerco Minerals Company.

At right, attending the judging of the design competition were (seated L to R) the judges: U. Dietz of the Newark Museum; J.V. Sloane of Christies of NY; R. Mehlman of New York University; J. McConnaughy of E.J. Shrubsole of NYC and London.

Standing (L to R) R.M. Johnston, Competition Coordinator; L.R. Higgins of Coeur d'Alene Mines; B. Sanders of American Craft Magazine; L. Meehan of Silver Trust International (STI); R. Muth of ASARCO Inc.; Anne Crowley-Tom of Metalsmith Magazine; and Justin L. Rice of Coeur d'Alene Mines Corp.

Dennis E. Wheeler (Left), President and CEO of Coeur d'Alene Mines Corp. and Tiffany & Co.'s E. Wawrynek (Right) at "Breakfast at Tiffany's".

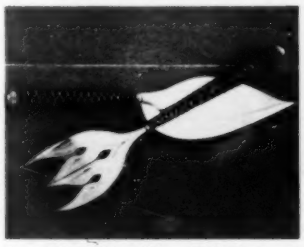
Tiffany's E. Wawrynek gives a surprise gift to Julia Woodman of Georgia State U. At the podium is R. M. Johnston.

FOR FUTURE REFERENCE: SILVER PRICES

1991	High	Low	Average
July	4.48	3.98	4.29
June	4.55	4.14	4.39
May	4.15	3.94	4.04
Apr.	4.09	3.90	3.97
Mar.	4.16	3.95	3.96
Feb.	3.85	3.51	3.72
Jan.	4.29	3.76	4.03

Year	High	Low	Average
1990	5.35	3.94	4.82
1989	6.20	5.02	5.47
1988	8.06	6.01	6.53
1987	11.25	5.35	6.99
1986	6.32	4.85	5.49
1985	6.89	5.48	6.14
1984	10.17	6.25	8.15
1983	14.74	8.38	11.46
1982	11.30	4.81	7.93
1981	16.53	7.97	10.53
1980	50.35	10.20	20.66
1979	35.00	5.93	11.20

COMEX



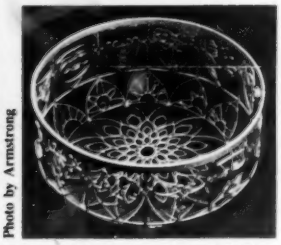


Photo by Armstrong

Photo by Armstrong

Photo by Armstrong

(L to R) Sterling Silver Fish Servers" by Julia Woodman, Georgia State University — Special Flatware Prize; "Sterling Silver Candlesticks" by Josephine Jacobsmeyer, Rochester Institute of Technology — Fourth Prize; "Sterling Silver Filigree Bowl" by Aline Gittleman, Washington Univ. School of Fine Art — Fifth Prize.

A display of the winning pieces has been on exhibit at the North Idaho College and at The Silver Institute Annual Conference. Previously the pieces were featured at a festive "Breakfast at Tiffany's" on July 8 in Tiffany's 5th Avenue Silverware Department in NYC. The display will also be exhibited at Lever House in New York City.

THE SILVER INSTITUTE
A WORLDWIDE ASSOCIATION OF MINERS, REFINERS, FABRICATORS AND MANUFACTURERS
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Editor, David U. Groves

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